

## CLAIMS

1. A method for producing a library of genetic mutations in a cell population by insertional mutagenesis, wherein a viral Vector comprising a transposon is used to deliver said transposon to said cell population, which cell population stably expresses a regulatable cognate transposase for said transposon, and the transposon is mobilised to give rise to the genetic mutations.
2. The method of claim 1 wherein the population of cells is a transgenic non-human animal.
3. The method of claim 1 wherein a nucleic acid encoding the transposase has been delivered to the cell using an integrating expression vector and the cell has been cultured to achieve stable expression of the transposase.
4. The method of claim 1 wherein the expression of the transposase is under the control of an inducible promoter.
5. The method of claim 4 wherein the inducible promoter is selected from a tetracycline-inducible promoter, a promoter from the beta globin locus and an oestrogen-inducible promoter.
6. The method of claim 1 wherein said viral vector is selected from a retroviral, lentiviral, adenoviral or baculo viral vector.
7. The method of claim 1 wherein the transposon is selected from *Minos*, *mariner*, *Hermes* and *Piggybac*.
8. The method of claim 1 wherein the cell population which stably expresses the transposase is an established cell line, a primary culture or a stem cell.
9. The method of claim 8 wherein said stem cell is an embryonic stem cell.